



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,937	12/29/2004	Morito Akiyama	2004_2054A	5096
513	7590	11/21/2006	EXAMINER	
WENDEROTH, LIND & PONACK, L.L.P. 2033 K STREET N., W. SUITE 800 WASHINGTON, DC 20006-1021			KOSLOW, CAROL M	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 11/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/519,937

Applicant(s)

AKIYAMA ET AL.

Examiner

C. Melissa Koslow

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/29/04, 10/3/06
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- ☐ Notice of Informal Patent Application
- ☐ Other: ____

Art Unit: 1755

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

JP 48-46582, cited in the information disclosure statement of 19 December 2004, has been considered with respect to the explanation of this reference in the specification.

JP 2002-194349, cited in the information disclosure statement of 19 December 2004, has been considered with respect to the provided English abstract.

The article by Lian et al, cited in the information disclosure statement of 3 October 2006, has been considered with respect to the provided English abstract.

Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The article by Smets et al teaches that for a luminescent material having the formula $\text{Sr}_2\text{Al}_6\text{O}_{11}$ to be formed, a B_2O_3 or H_3BO_3 flux must be present. The articles that if the flux is not present then $\text{Sr}_2\text{Al}_6\text{O}_{11}$ will not form. Claim 4 does not teach the presence of the flux and thus the claimed process cannot form a material having the claimed formula of $\text{Sr}_2\text{Al}_6\text{O}_{11}$.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1755

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2000-063823.

This translation of JP 2000-63823 teaches a luminescent material having the formula $\text{Sr}_2\text{Al}_6\text{O}_{11}:\text{Eu}$. This formula is the same as that claimed and thus the taught material must inherently be mechanoluminescent, absent any showing to the contrary.

Claims 1, 2 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by the article by Smets et al, the article by Wang et al or U.S. patent 4,524,300.

These references teach a luminescent material having the formula $\text{Sr}_2\text{Al}_6\text{O}_{11}:\text{Eu}$. This formula is the same as that claimed and thus the taught material must inherently be mechanoluminescent, absent any showing to the contrary. The article by Smets teach $\text{Sr}_{1.99}\text{Eu}_{0.01}\text{Al}_6\text{O}_{11}$, which contains 1 mol% Eu, by mixing SrCO_3 , Al_2O_3 and Eu_2O_3 and firing the mixture at 1100-1500°C in a reducing atmosphere. The article by Wang et al teaches producing $\text{Sr}_{1.96}\text{Eu}_{0.04}\text{Al}_6\text{O}_{11}$, which contains 4 mol% Eu, by mixing SrCO_3 , $\text{Al}(\text{OH})_3$ and Eu_2O_3 and firing the mixture at 1000°C for hour and 1300°C for 4 hours in a reducing atmosphere. U.S. patent 4,524,300 teaches producing $\text{Sr}_{2-x}\text{Eu}_x\text{Al}_6\text{O}_{11}$, where x is 0.001-0.25 by mixing SrCO_3 , $\text{Al}(\text{OH})_3$ and Eu_2O_3 and firing the mixture at 1050-1200°C in a reducing atmosphere.

Art Unit: 1755

Claims 1 and 3 are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. patent application publication 2003/0122484 or U.S. patent application publication 2003/012034.

Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. patent application publication 2003/0160259; U.S. patent 6,841,933, U.S. patent 6,908,220 or U.S. patent 6,835,958.

U.S. patent application publication 2003/0160259 was patented as U.S. patent 6,835,958.

U.S. patent application publication 2003/0122482 was patented as U.S. patent 6,841,933.

U.S. patent application publication 2003/0012034 was patented as U.S. patent 6,908,220.

All of these references teach the luminescent material having the formula $\text{SrLa}_{0.6}\text{Tb}_{0.4}\text{Al}_3\text{O}_7$, where terbium acts as the center of luminescence. This formula is the same as that claimed and thus the taught material must inherently be mechanoluminescent, absent any showing to the contrary.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk
November 17, 2006


C. Melissa Koslow
Primary Examiner
Tech. Center 1700